

# **A SUMMARY OF THE DEVELOPMENT OF THE CLEAN AIR ACT**

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# **A Summary of the Development of the Clean Air Act And Its Prevention of Significant Deterioration Provisions**

## **1.0 Introduction**

The federal Clean Air Act (CAA) and one of its components – the prevention of significant deterioration (PSD) program – are potentially very confusing without understanding how the CAA developed and how the PSD program fits into the Act as a whole. This document summarizes in some detail the development of the CAA and its PSD provisions.

## **2.0 Background History of the CAA Nationally and In North Dakota**

### **2.1 General Background**

In the last quarter of the 19<sup>th</sup> Century, air pollution developed into a health and environment problem with the expansion of industry primarily in high population areas during the Industrial Revolution. This problem continued to grow in the 20<sup>th</sup> Century with the continued growth of cities and the changes induced by the automobile. Arnold W. Reitze, *The Legislative History of U.S. Air Pollution Control*, 36 Hous. L. Rev. 679, 680-86 (1999). States and local governments began to regulate air pollution by using their general police powers to protect public health, safety, and welfare, by regulating nuisances, and by implementing land use controls. *Id.* at 686-89.

As industry and power needs increased dramatically during World War II and afterwards, an extended period of peace and economic prosperity allowed the shifting of economic and social resources towards addressing the growing air pollution problems that were concomitant with the growing industry, growing economy, and growing population. *See, e.g.*, 1 Frank P. Grad, *Treatise on Environmental Law* § 203[1] (1996). Congress stepped in for the first time into what had traditionally been a local and state issue for the two reasons stated in the law itself: (1) air pollution problems crossed local and state boundary lines, and (2) “the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles” resulted in “mounting dangers to the public health and welfare.” CAA § 101(a) 42 U.S.C.A. § 7401(a).

Congress’s initial foray into air pollution issues began with the passage of the Air Pollution Control Act of 1955. Pub. L. No. 84-159, 69 Stat. 322 (1955). This law authorized federal “research and technical assistance relating to air pollution control” from the Department of Health, Education and Welfare. *Id.* ch. 360. Along with this investment of federal resources into research and technical assistance, Congress declared its intent that responsibility for air pollution control would remain primarily with the states. *See* S. Rep. No. 84-389, at 3 (1955), reprinted in 1995 U.S.C.A.A.N. 2457, 2459 (stating that the bill represents no “exercise of police power” nor any attempt to “inva[d]e the sovereignty of states”). Such a declaration has accompanied all federal air pollution legislation passed since 1955, even as the federal government’s regulatory role has grown. *See* 42 U.S.C.A. § 7401(a)(3); William H. Rodgers, Jr., *Environmental Law* § 3.1, at 130 (2d ed. 1994). The federal-state partnership to address air pollution initiated under the Air Pollution Control Act of 1955 remains the backbone of the system of (1) federally set minimum air quality standards, federal oversight, and technical and financial assistance, and (2) state implementation, management, and enforcement of the programs that have developed out of this partnership under the CAA. *See, e.g., Alabama Power Co. v. Costle*, 636 F.2d 323, 346 (D.C. Cir. 1979). (“At the heart of the [CAA amendments of 1970] were federally promulgated national ambient air quality standards (NAAQS) and state-adopted plans to implement those standards.”).

Authority for the federal government to directly bring enforcement actions to address air pollution problems began in 1963 with passage of the first Clean Air Act, Pub. L. No. 88-206, 77 Stat. 392 (1963). The law authorized the Secretary of Health, Education and Welfare (HEW) to intervene, albeit only through investigation and advisory recommendation, when air pollution endangered the public "health or welfare." § 5, 77 Stat. at 396-98. The HEW Secretary could recommend federal enforcement action by the Attorney General, for example, to compel a state with air quality standards to meet those standards when adverse effects of pollution were extreme or were crossing state boundaries. § 5(f)(7), 77 Stat. at 397-98. Because of the procedural hurdles that were prerequisite to direct federal action, including consultation with the state affected, only one case progressed from the enforcement stage (a filed consent decree in federal court) to an abatement suit in federal court. *See* § 5, 77 Stat. at 396-98; Grad, *supra*, § 2.03 at 2-72. United States v. Bishop Processing Co., 287 F. Supp. 624, 629 (D. Md. 1968) *aff'd*, 423 F.2d 469 (4<sup>th</sup> Cir. 1970), *cert. denied*, 398 U.S. 904 (1970), upheld the constitutionality of federal air pollution control when it involved issues of interstate pollution (holding movement of air pollutants across state line constitutes "interstate commerce" subject to the power granted to Congress by the Constitution to regulate such commerce).

When the federal air pollution control program began in the 1960's, major cities had air pollution control agencies larger than most state agencies. Reitze, *supra*, 36 Hous. L. Rev. at 690-93. For example, Huron Portland Cement Co. v. Detroit, 362 U.S. 440, 443-44 (1960) upheld a Detroit air pollution control regulation even though it impacted interstate commerce, stating that the Commerce Clause was "never intended to cut the States off from legislating on all subjects relating to the health, life, and safety of their citizens, though the legislation might indirectly affect the commerce of the country."<sup>1</sup>

After passage of the Air Quality Act of 1967, the role of the federal government became more dominant. Reitze, *supra*, 36 Hous. L. Rev. at 690-93. The approach of the 1967 Act, which was continued with the passage of the Clean Air Act of 1970, was to require the states to develop, implement, and enforce the stationary source air pollution control measures. *Id.* at 694. The role of local governments diminished because states, not local governments, were given responsibility for implementing and enforcing the laws under the federal statutes and regulations, and state air quality standards preempted local laws where conflicts developed. *Id.* However, strictly local air pollution problems such as odors, open burning, and location of industrial sources continued (and still continue) to be regulated by local ordinances and zoning regulations as well as state laws and regulations. *Id.*

North Dakota, like many other states, reacted to the possibility of federal usurpation of state authority under the Air Quality Act of 1967 by enacting its own air pollution law – N.D.C.C. ch. 23-25. The Air Quality Act of 1967, Pub. L. No. 90-148, 81 Stat. 485 (1967), had given HEW authority to designate air quality control regions and required states to adopt ambient air quality standards for the various regions and develop implementation plans to achieve these standards. §§ 107-108, 81 Stat. at 491-93. The framework of the 1967 Act – establishing ambient air standards as the goal, state implementation plans as the means, and air quality control regions as the fundamental geographic unit by which success is measured – became the "vessel into which the subsequent amendments were poured." Rodgers, *supra*, § 3.1 at 134. Under the '67 Act, the federal government controlled pollution through air quality criteria that functioned as performance standards for the states, rather than seeking to regulate sources directly, with states

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<sup>1</sup> *See also* General Motors Corp. v. Tracy, 519 U.S. 278, 306-07 (1997) ("We have consistently recognized the legitimate state pursuit of such [health and safety] interests as compatible with the Commerce Clause, which was 'never intended to cut the States off from legislating on all subjects relating to the health, life, and safety of their citizens, though the legislation might indirectly affect the commerce of the country.'"), quoting the above language from Huron.

setting source-specific emissions limits provided they enacted an implementing law. *Id.* at 124-35.

The 1969 North Dakota Legislature enacted the original version of N.D.C.C. ch. 23-25 directly in response to the provision of the Air Quality Act of 1967 that provided for federal enforcement if the procedure to establish and enforce air quality standards was not enacted by the state. Thomas L. Zimney, *The Peril of Air Pollution in North Dakota*, 46 N.D. L. Rev. 217, 220 (1970), citing §108(c)(2), 81 Stat. at 492-93. One of the primary purposes of the bill, as expressed by one sponsor, Senator Trenbeath, was the avoidance of federal enforcement by implementing a state program. *Id.* at 217. Testimony presented by W. Van Heuvelen, the Executive Officer for the Department at that time, to the Natural Resources Committees of the Senate and House, confirms this:

We know you are aware of the recently enacted Federal air pollution legislation – The Air Quality Act of 1967. This Act requires standard-setting and enforcement by states and permits strong federal action if the states do not act. The passage of a North Dakota air pollution control law would alleviate the necessity of Federal intervention in North Dakota’s local air pollution problems.

Written testimony, W. Van Heuvelen, presented to N.D. Sen. Comm. on Nat. Res., Sen. Grant Trenbeath, Chair, Senate Bill No. 130 (Jan. 17, 1969). Thus, the expressed legislative intent of N.D.C.C. ch. 23-25 at the time of its enactment was that North Dakota retain its primary jurisdiction and responsibility for setting and enforcing its own air quality standards, rather than be subject to federal intervention and control. North Dakota’s statute and implementing rules must be read in this context.

The CAA amendments of 1970 established the current structure of the CAA. Congress carried over from the ’67 Act the concept of air quality control regions as the basic regulatory unit and directed the newly formed EPA (created in 1970 by executive order after executive reorganization shifting environmental responsibilities from HEW) to: (1) identify a list of "criteria" pollutants which endanger public health and welfare; and (2) prescribe primary (health-based) and secondary (welfare-based) National Ambient Air Quality Standards (NAAQS) for each criteria pollutant. Pub. L. No. 91-604, 84 Stat. 1676, at CAA §§ 107-09, 1678-80 (1970). Primary standards must protect the “public health” with an adequate margin of safety. CAA §109(b)(1), 42 U.S.C.A. § 7409(b)(1).

Secondary standards must protect “public welfare,” which is defined to include both known or anticipated adverse effects. CAA § 109(b)(2), 42 U.S.C.A. § 7409(b)(1); CAA § 302(h), 42 U.S.C.A. § 7602(h).

The pollutants for which these primary and secondary standards have been established are commonly known as “criteria” pollutants because, under CAA § 109(b), EPA must base the establishment of ambient standards on 'criteria' documents setting forth scientific knowledge about health and welfare effects. Under these “criteria,” EPA identified and established six initial “criteria” pollutants: carbon monoxide, lead, nitrogen oxides, ozone, sulfur dioxide, and particulate matter. See, e.g., *Lead Indus. Ass’n v. EPA*, 647 F.2d 1130, 1148-51 (D.C. Cir. 1980), cert. denied, 449 U.S. 1042 (1980) (primary standards). Because of the difficulty of establishing the scientific threshold at which health effects begin to occur, and litigation concerning whether “implementation costs” should be considered in establishing the NAAQS, the list of criteria pollutants has remained unchanged from its initial establishment by EPA. However, the Supreme Court recently determined that the EPA may not consider “implementation costs” in setting the primary and secondary NAAQS, resolving one of the two longstanding issues for establishing additional primary and secondary NAAQS. *Whitman v. American Trucking Associations, Inc.*, 121 S. Ct. 903, 909-11 (2001).

Once the EPA had established primary NAAQS for the six “criteria” pollutants, states were in a position to measure whether the designated air quality regions in their states were in “attainment” or “nonattainment” based on whether they met the NAAQS. CAA § 110(k)(3), 42 U.S.C.A. § 7410(k)(3). The 1970 Act then required each state to submit for EPA approval a “state implementation plan” (SIP) which detailed how emissions would be limited within that state so that each state could either attain or maintain the federal NAAQS. CAA § 111, 42 U.S.C.A. § 7411. In “nonattainment areas”, the SIP consisted of measures, such as emission limitations on individual sources of pollution, sufficient to demonstrate that the state will attain the primary standards by the statutory deadlines, and the secondary standards within a reasonable time. *Id.* In “attainment areas”, i.e., clean air areas such as North Dakota that complied with all the NAAQS, the SIP only had to show how the state would “maintain” the NAAQS. *Id.* North Dakota’s approved SIP is at 40 CFR §§ 52.1820-52.1836.

The CAA was set up to be “a comprehensive national program that ma[kes] the States and the Federal Government partners in the struggle against air pollution.” General Motors Corp. v. United States, 496 U.S. 530, 532 (1990). Congress made this intent clear in its initial findings in the ’70 Act:

(a) Findings

The Congress finds—

(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

(3) *that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source)<sup>2</sup> and air pollution control at its source is the primary responsibility of States and local governments; and*

(4) that Federal financial assistance and leadership is essential *for the development of cooperative Federal, State, regional, and local programs* to prevent and control air pollution.

CAA § 101, 42 U.S.C.A. § 7401. (Italics supplied.)

Train v. Natural Resources Defense Council, Inc., 421 U.S. 60 (1975) discusses the division of responsibilities between the EPA and states with respect to the 1970 CAA amendments in general and state implementation plans (SIPs) under CAA § 110 in particular. CAA § 110 charges EPA with the responsibility for setting the national ambient air quality

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<sup>2</sup> Congress included this explanatory language between the parentheses.

standards, but gives EPA only a secondary role in the process of determining and enforcing the specific, source-by-source emission limitations necessary to meet the national standards. Train at 86-87. EPA lacks authority to question the wisdom of a state's choices for emission limitations if they are part of a SIP that satisfies the primary and secondary standards set under CAA § 109 and § 110, and EPA may devise and promulgate a specific implementation plan of its own only if a state fails to submit a SIP under § 110 that satisfies those standards. Id. at 87-90. As long as the ultimate effect of a state's choice of emission limitations complies with the national standards for ambient air set by EPA, the state may adopt whatever mix of emission limitations it determines are the best for its particular circumstances. Id. at 87-89. The same review criteria apply to SIP revisions. Id. at 90.<sup>3</sup>

Alabama Power Co. v. Costle, 636 F.2d at 323, 361-64 (D.C. Cir. 1979) raised and addressed in the context of the PSD provisions of the CAA essentially the same issue addressed in Train, 421 U.S. at 84-90, in the context of setting the NAAQS – that is, the division of authority between EPA and the states regarding setting, managing, and enforcing the PSD increments. Alabama Power draws the line between federal and state authority over the PSD increments at essentially the same place the line was drawn in Train and by Congress at CAA § 101(a)(3) [42 U.S.C.A. § 7401(a)(3) quoted above]: “We rule that EPA has authority under the statute to prevent or to correct a violation of the increments, but the agency is without authority to dictate to the States their policy for management of the consumption of allowable increments.” Alabama Power, 636 F.2d at 361.

EPA has evidenced an intention to promulgate guidelines to help the states manage the allocation of available increments. This is an appropriate step. But this is not to say that the agency may prescribe the manner in which states will manage their allowed internal growth. In the allocation of responsibilities made by Congress, maximum limitations have been set. These must be observed by the states, but assuming such compliance, growth-management decisions were left by Congress for resolution by the states.

Id. at 364.

In sum, similar to the role assigned to the EPA in enforcing the NAAQS, Alabama Power recognizes that the PSD program charges EPA with responsibility for setting rules and guidelines to govern the PSD standards set by Congress, Id. at 364, and the authority to prevent and correct a violation, Id. at 361, but determines that EPA has a secondary role in the process of determining and enforcing the specific, source-by-source increment management decisions that are necessary if the PSD increments set by Congress are to be met. Id. at 361, 364. As long as the ultimate effect of a state's choice of emission limitations on its regulated stationary sources complies with the PSD increments for affected areas, the state may adopt whatever mix of PSD emission limitations it deems best to manage the allowable increments. Id. at 361, 364.

## **2.2 Background of the PSD provisions of the CAA**

The PSD provisions of the CAA grew out of a lawsuit to enforce the following italicized language in the CAA’s declaration of purposes:

### **(b) Declaration**

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<sup>3</sup> See also Union Electric Co. v. EPA, 427 U.S. 246, 269 (1976) (“Congress plainly left with the States, so long as the national standards were met, the power to determine which [existing] sources would be burdened with regulation and to what extent.”).

The purposes of this subchapter are—

- (1) *to protect and enhance* the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;
- (2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;
- (3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and
- (4) to encourage and assist the development and operation of regional air pollution prevention and control programs.

CAA § 101, 42 U.S.C. §§ 7401. (Italics supplied.)

The lawsuit, Sierra Club v. Ruckelshaus, 344 F. Supp. 253 (D.D.C. 1972), relied on the above italicized language in CAA § 101(b)(1) to overturn an EPA interpretation of what the phrase “*to protect and enhance*” meant and required the agency to take steps to ensure that the air quality of “clean air” or attainment areas not suffer significant deterioration. Sierra Club, at 256. This decision was affirmed without opinion by the D.C. Circuit. 4 Env’t Rep. Cas. (BNA) 1815 (D.C. Cir. 1972). The Supreme Court granted certiorari, heard oral argument, but then affirmed the decision without opinion by an equally divided court, Justice Powell not participating. Fri v. Sierra Club, 412 U.S. 541 (1973).

The Sierra Club lawsuit grew in part out of a problem that was recognized when the ’70 amendments to the CAA were enacted. Once EPA had established the NAAQS, and each air quality control region in each state had made the required “attainment” or “nonattainment” status determination for each of the NAAQS, facilities in nonattainment regions might simply move to attainment regions, rather than install expensive air pollution controls.

The SIPs for nonattainment regions had to include a plan to bring their regions into attainment with all the NAAQS. See CAA § 110(a)(2), 42 U.S.C.A. § 7410(a)(2), and Part D, CAA §§ 171-177, 42 U.S.C.A. 7501-7509. The “nonattainment area” SIPs had to include measures, such as emission limitations on individual sources of pollution, sufficient to demonstrate that the state would attain the primary standards by the enacted statutory deadlines, and the secondary standards within a reasonable time. CAA § 111, 42 U.S.C.A. § 7411.

Attainment regions, on the other hand, were free to allow unlimited growth in air pollution up to the limits allowed under the NAAQS. Thus the possibility existed that large stationary industrial sources located in nonattainment regions (and states) would move to attainment regions (and states), rather than install the expensive pollution control equipment that they wouldn’t need to install if they moved to an attainment area (or state). Movement of the source would likely involve movement of jobs and people. Clean air, low population states like North Dakota, which were substantially below the NAAQS for all six criteria pollutants, stood to gain both economically and in population growth from this situation.

To address this issue, the ’70 Act prescribed standards of performance for new stationary sources regardless of location and regardless of attainment or nonattainment status of the air quality region for which it was proposed. These standards are known as new source performance standards (NSPS), and the review process is known as new source review (NSR). See CAA § 111, 42 U.S.C.A. § 7411. NSPS and NSR required new sources to install the latest pollution

control technologies at the time of construction. *See, e.g., Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 434 n. 14 (D.C. Cir. 1973) (“The legislative history of § 111 of the Clean Air Act ... reveals that Congress was most concerned with new plants – new sources of pollution – would have to be controlled to the greatest degree practicable if the national goal of a cleaner environment was to be achieved.”). The legislative history shows that the ’70 Congress considered this issue and determined that subjecting new sources to the NSR-NSPS process would be protective of public health and welfare, and would discourage forum shopping for the location of new facilities. *See, e.g., H.R. Rep. No. 91-1146*, at 3 (1970), (*reprinted in* 1970 U.S.C.A.N. 5356, 5358).

The ’70 Congress also debated whether to subject existing sources to NSR requirements, but it chose not to because of the high cost and the difficulty of retrofitting new pollution control technologies on sources that were already designed, built, and in operation. S. Rep. No. 91-1196, at 15-16 (1970). Instead, it determined that existing sources would have to undergo the NSR-NSPS process and be required to meet the standards that apply to new sources when an existing source underwent a “modification” as defined by CAA § 111(a)(4), 42 U.S.C.A. § 7411(a)(4).

Notwithstanding the NSR/NSPS requirements in the ’70 Act, Sierra Club won its lawsuit for a CAA program to address “significant deterioration,” *Sierra Club*, 344 F. Supp. at 256, and continued to press Congress for further legislation. *See* Nondegradation Policy of the Clean Air Act: Hearing Before the Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works, 93d Cong., 1st Sess. 7 (1973) (statement of Laurence I. Moss, President of the Sierra Club).

To comply with *Sierra Club*, EPA issued “nondegradation” regulations in 1974 that established the basic elements of the current program, albeit in less detailed form. 39 Fed. Reg. 42,514 (Dec. 5, 1974); 40 CFR § 52.21. These regulations were challenged by both environmental groups and industry, but were upheld by the D.C. Circuit. *Sierra Club v. EPA*, 540 F.2d 1114 (D.C. Cir. 1976). Both the Sierra Club and industry groups then petitioned for certiorari; the Sierra Club’s petition was denied, 430 U.S. 959 (1977), while industry’s petition was granted under *Montana Power v. EPA*, 430 U.S. 953 (1977), but limited to two questions, including the fundamental issue of whether the PSD regulations were authorized by statute. Congress, though, elected to resolve the issue itself before the Supreme Court made its decision. After Congress enacted the 1977 PSD amendments to the CAA, the case was vacated and remanded for reconsideration in light of these amendments, 434 U.S. 809 (1977).

The legislative history relating the battle in Congress over passage of the PSD provisions of the CAA, CAA §§ 160-169, 42 U.S.C. §§ 7470-7479, reflects the issues discussed above. In 1976, both Houses passed proposed Clean Air Act amendments that accepted the principle of prevention of significant deterioration. S. 3219, 94th Cong., 2d Sess. § 6, 122 Cong. Rec. 30,762, 30,763-64 (Sept. 16, 1976); H.R. 10,498, 94th Cong., 2d Sess. § 108, 122 Cong. Rec. 30,774, 30,780-84 (Sept. 16, 1976). The PSD law that eventually passed in ’77 follows “the outline of the old regulations [the ’74 regulations adopted in response to *Sierra Club v. Ruckelshaus* at 39 FR 31,000], but are in many ways more elaborate and more stringent.” 44 Fed. Reg. 51,924 (Sept. 5, 1979). But in 1976, a conference committee agreement resolving differences between the House and Senate bills died at the end of the 1976 session because of a Senate filibuster prompted largely by the PSD provisions. H.R. Rep. No. 1742, 94th Cong., 2d Sess. (1976), *reprinted in* 5 Lib. of Cong., “A Legislative History of the Clean Air Act Amendments of 1977” 4287 (1978). Other factors contributing to the filibuster were proposed emissions standards for automobiles, “Congress Adjourns After Delays; Clean Air Bill Dies in Filibuster,” N.Y. Times, Oct. 2, 1976, at 7, col. 1, and strict limits on industrial development that essentially barred new major stationary sources in nonattainment areas, [7 Current Developments] Env’t Rep. (BNA) 918-19 (Oct. 22, 1976) (quoting Roger Strelow, EPA Assistant Administrator for Air). Thus, one

of the reasons for the filibuster killing the '76 bill was its strict PSD increment limits on industrial development that essentially would have barred new major stationary sources in nonattainment areas.

The legislative history to the PSD provisions of the CAA that eventually passed in '77 reveals a significant battle over establishing the level of the PSD increments. Congress was aware, it appears, that it was setting "the annual increments much more leniently than the twenty-four-hour and three-hour increments: that is, the annual increments are set sufficiently high that, on average, it is very improbable that a source that consumes all of the twenty-four-hour increment will consume all of the annual increment." Craig N. Oren, *Prevention of Significant Deterioration: Control-Compelling Versus Site-Shifting*, 74 Iowa L. Rev. 1, 37 (1988). The legislative history shows that PSD bill's sponsors understood that the annual increments would be more lenient than the short-term standards. See, e.g., 123 Cong. Rec. 26,845 (Aug. 4, 1977) (remarks of Senator Muskie that 'the most crucial and limiting increment is frequently the 24-hour sulfur dioxide increment'); 1977 House Report, reprinted in 4 1977 LEGISLATIVE HISTORY 2636-37 (explaining need for short-term increments).

The sponsors of PSD also "seem to have anticipated that the increments would rarely be violated, except in or near Class I areas." Oren, *supra*, 74 Iowa L. Rev. at 37.

Rather, the Congressional codifiers of PSD used EPA projections to argue that, by requiring BACT, expected industrial growth could be permitted within Class II, or at worst, within Class III areas.

Id.

For instance, EPA projections showed that the House's Class II increment could accommodate large refineries, power plants, or pulp and paper mills. *Id.*; see also 1977 House Report, H.R. REP. NO. 294, 95th Cong., 1st Sess. 139, 160-62 (1977) reprinted in 1977 LEGISLATIVE HISTORY, 4 Lib. of Cong., "A Legislative History of the Clean Air Act Amendments of 1977" at 2627-29 (1978) ("Some have argued that the Class II increments will not accommodate sufficient industrial development. But EPA ... under both the [Ford] and [Carter] administrations" [has] "analyzed the committee bill's increments and ... refuted this contention.").

But even though EPA projections showed that the House's Class II increment could accommodate large refineries, power plants, or pulp and paper mills, the Senate-House conferees still increased the Class II and Class III three-hour SO<sub>2</sub> increments over the House's proposal to allow even additional room for development. Oren, *supra*, 74 Iowa L. Rev. at 37; 123 Cong. Rec. 27,069 (Aug. 4, 1977) (remarks of Rep. Rogers), reprinted in 3 1977 LEGISLATIVE HISTORY, 3 Lib. of Cong., "A Legislative History of the Clean Air Act Amendments of 1977" at 318; H.R. Conf. Rep. No. 564, 95th Cong., 1st Sess., reprinted in 3 1977 LEGISLATIVE HISTORY, 3 Lib. of Cong., "A Legislative History of the Clean Air Act Amendments of 1977" at 531. The House bill would have provided Class II and Class III increments at 25% and 50% of the SO<sub>2</sub> NAAQS. H.R. 6161, 95th Cong., 1st Sess. § 108(a) (1977) (adding proposed § 160(c)(2)(B)-(C)), reprinted in 4 1977 LEGISLATIVE HISTORY, 4 Lib. of Cong., "A Legislative History of the Clean Air Act Amendments of 1977" at 2282. Since the 3-hour ambient standard for sulfur dioxide is 1300 micrograms, 40 CFR § 50.5, the 3-hour increments under the House bill would have been 325 for the Class II increment and 650 micrograms for the Class III increment. Instead the final '77 bill established limits of 512 micrograms for the Class II three-hour standard and 700 micrograms for the Class III three-hour standard. CAA § 163(b), 42 U.S.C.A. § 7473(b).

In contrast to the NAAQS, where Congress required EPA to set the primary and secondary standards under CAA § 109, 42 U.S.C.A. § 7409, based on scientific studies of health and welfare, Congress itself set the maximum PSD SO<sub>2</sub> and particulate increments under CAA § 163(b), 42 U.S.C.A. § 7473(b). A comparison of the SO<sub>2</sub> PSD increments established by Congress under CAA § 163(b) to the SO<sub>2</sub> PSD increments established by the EPA under its 1974 PSD regulations reveals, however, that the PSD increments established by Congress for Class I areas were exactly the same as those established by EPA under the '74 regulations. *Compare* CAA § 163(b)(1), 42 U.S.C.A. § 7473(b)(1), to 40 CFR § 52.21(c)(2) published at 39 FR 31,000, 31,007 (August 27, 1974). The Class II and Class III increments for SO<sub>2</sub> set by Congress were more stringent than the Class II and Class III increments set by the EPA under its '74 regulations. *Id.* However, in light of Congress's knowledge that the EPA projections showed that the '77 House Bill's Class II increments could accommodate large refineries, power plants, or pulp and paper mills, Congress apparently knew that these more stringent Class II and Class III standards would have little practical effect.

Congress also set forth a procedure for granting variances to the Class I increments, and alternative PSD increments that cannot be exceeded if PSD Class I variances are granted. CAA § 165(d), 42 U.S.C.A. § 7475(d). These alternative Class I increments are essentially the same as the Class II increments, except the Senate-House conference committee apparently forgot to change the House Class I 3-hour alternate increment of 325 micrograms per cubic meter at CAA § 165(d)(2)(C)(iv) when it raised the Class II three-hour increments from 325 to 512. *Compare* CAA § 163(b)(2), 42 U.S.C.A. § 7473(b)(2) to CAA § 165(d)(2)(C)(iv), 42 U.S.C.A. § 7475(d)(2)(C)(iv), and the Legislative history discussed above. The CAA does not allow a PSD variance for Class II and Class III areas. But the reason that no variance procedure was necessary is apparent from the above history – Congress did not anticipate that the Class II and Class III increments would be exceeded. Further, if a Class II increment is exceeded, the state has the option of re-designating the area as a Class III area. CAA § 164(a)(A), 42 U.S.C.A. § 7474(a)(A). No state has ever re-designated an area from Class II to Class III. Robert L. Glicksman, *Pollution on the Federal Lands I: Air Pollution Law*, 12 U.C.L.A. J. Envtl. L. & Pol'y 1, 30-31 (1993). "Likewise, states have been reluctant to redesignate non-mandatory areas as class I, in part because states often are averse to the restrictions on development that stem from class I status." *Id.* at 31.

John Quarles was the acting administrator of EPA when the EPA promulgated the 1974 PSD regulations in response to Sierra Club v. Ruckelshaus. *See* 39 Fed. Reg. at 31,007. Testifying in a House hearing in 1981, Mr. Quarles stated:

[The Class II increment] was simply plucked off the ceiling at the time that EPA was developing the program, and Congress wrote it into the statute in 1977. There is no way you could relate that increment or any other increment to any health effect or welfare effect or any identifiable effect of any sort.

Oren, *supra*, 74 Iowa L.Rev. at 24, FN 86. *See also* 39 FR at 31,001 (increments "subjective").

In contrast to the NAAQS, which under CAA § 109(b) must be based on "criteria" documents setting forth scientific knowledge about health and welfare effects, there was no particular air quality significance to the size of the increments for each class chosen by Congress in 1977: "this is not surprising, since there is no air quality effect that is caused by new emissions rather than old emissions." Oren, *supra*, 74 Iowa L.Rev. at 24. "Rather, the increments for each class were chosen as a rough measure of whether an area should be kept at its present air quality, or whether moderate or greater growth is appropriate." *Id.* This conception of increments goes back to the increment scheme proposed by EPA in 1974 in response to Sierra Club v. Ruckelshaus, 39 Fed. Reg. at 31,003; Oren, *supra*, at n. 87. It is also evident in the statements of PSD bill's sponsors in 1976 and 1977, for example the statement by Senator Domenici that the

Class II increment was “designed to accommodate well planned orderly growth”. Oren, *supra*, at n. 87.

Congress defined the purposes of the PSD law:

The purposes of this part are as follows:

- (1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate[d] to occur from air pollution [(l)or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air), notwithstanding attainment and maintenance of all national ambient air quality standards;
- (2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;
- (3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;
- (4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and
- (5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision making process.

CAA § 160, 42 U.S.C.A. §7470.

Congress designated all NAAQS attainment areas such as North Dakota (as well as areas that were unclassifiable under the NAAQS) as Class II PSD areas. CAA § 162(b), 42 U.S.C.A. § 7472(b). This Class II designation included all federal lands, except for the national and international parks and national wilderness areas designated under CAA § 162(a), 42 U.S.C.A. § 7472(a).

Before the 1977 amendments, the federal land managers (FLMs) of federally-owned clean air areas had the same power to control redesignation that states had over non-federal lands. The 1977 amendments removed the FLMs' control of redesignation, leaving them with mere advisory powers. If a state proposes to redesignate an area containing federal lands, it must notify the FLM, who may then submit comments. States must explain any disagreement with the land manager but need not abide by his or her recommendations. Indeed, the Act requires that FLMs recommend reclassification to class I of all areas in which air quality related values are important attributes. The Forest Service and the Interior Department recommended in 1979 and 1980 that 59 areas be upgraded to class I status, but the states refused to reclassify any of them.

Glicksman, *supra*, 12 UCLA J. Env'tl. L. & Pol'y at 31. This change affected North Dakota because of large areas in the western part of the state that are federal grasslands. Under the '77 amendments, Congress took the authority to redesignate these areas from the federal land managers (FLMs) and gave that power to the states. *See* CAA § 164(b)(2), 42 U.S.C.A. § 7474(b)(2); Kerr-McGee Chem. Corp v. Dep't of Interior, 709 F.2d 597 (9<sup>th</sup> Cir. 1983).

In 1978, the EPA revised its regulations to respond to the many changes made in the PSD program by the 1977 amendments to the CAA discussed above. *See* 43 Fed. Reg. 26,380, *supra*. These revised rules were challenged before the D.C. Circuit by both environmental and industry groups in the Alabama Power case. *See Alabama Power*, 636 F.2d at 346-52. The court invalidated crucial portions of the regulations as contrary to the language of the 1977 Amendments, including invalidation of the uniform baseline date set in the rules and strong language indicating the baseline concentration is to be determined using “actual air quality data.” *Id.* at 374-376. This necessitated the comprehensive revision of the rules published at 45 Fed. Reg. 52,675 (August 7, 1980).

The federal PSD statutes under the ’77 CAA amendments, as well as the PSD rules and regulations at 45 Fed. Reg. 52,675 as revised in response to Alabama Power, have remained essentially unchanged since 1980 and are still the governing federal laws and guidance on the issues of establishing a “baseline concentration” under PSD and calculating “increment consumption”.

Just as the ’78 PSD regulations that EPA promulgated after the ’77 amendments to the CAA were challenged in Alabama Power, the ’80 regulations at 45 Fed. Reg. 52,675 were also challenged in federal court soon after they were published in the federal register by several industry and environmental groups, which was eventually consolidated into one case. Chemical Mfrs. Ass’n v. EPA, No. 79-1112 (D.C. Cir.). EPA reached a settlement agreement with most of the industry challengers in February 1982 in which EPA agreed to propose to revise its rules in various respects, but EPA never carried out either the proposals or the proposed revisions as contemplated in the decree.

After about a decade of debate, Congress passed the Clean Air Act Amendments of 1990 that primarily addressed urban smog, hazardous air pollution, acid rain, and depletion of the stratospheric ozone layer, but also included amendments of the PSD provisions of the act relating to visibility and other matters. Pub. L. 101-549 (Nov. 15, 1990), 104 Stat. 2399. These amendments, however, did not amend any of the PSD statutes or rules of concern in North Dakota’s 2002-2003 periodic review proceeding or under the February 24, 2004 MOU between the State and EPA.

In 1992, in response to Wisconsin Electric Power Co. v. Reilly (WEPCo), 893 F.2d 901 (7<sup>th</sup> Cir. 1989), EPA adopted a change in the definition of “actual emissions” to accommodate “an actual to future actual” methodology for calculating PSD effects of changes at existing utilities that are non-routine physical or operational changes that don’t fit into the definition of “routine maintenance”. 57 Fed. Reg. 32,314 (July 21, 1992). North Dakota has amended its PSD rules to include the “WEPCo” rule amendment into its definition of actual emissions, N.D. Admin. Code § 33-15-15-01(1)(a)(4). As with all other PSD rule amendments, the WEPCo rule were challenged by both industry and environmental petitioners, but those cases were all stayed pending EPA’s actions under a settlement agreement. The WEPCo rule applies only to utilities undergoing a major modification that desire to apply an actual-to-future-actual emissions test to determine whether a physical or operational change will result in an emissions increase over baseline levels. 57 Fed. Reg. at 32,316. The WEPCo rule was not used in either the State’s 2002-2003 PSD periodic review or under the February 24, 2004 MOU between the State and EPA.

In 1996, after four years of consideration, EPA proposed “the first comprehensive overhaul of the [PSD] program in 15 years.” 61 Fed. Reg. 38,249, 38,251 (July 23, 1996). In 2002, portions of the ’96 proposed rule amendments were formally promulgated, 67 Fed. Reg. 80, 186 (Dec. 31, 2002), and, like all other PSD rules, were immediately challenged and defended before the D. C. court of appeals by states, environmental groups, and industry. New

York v. USEPA, No. 02-1387 (and consolidated cases). None of these amended rules were considered or used in either the State's 2002-2003 PSD periodic review or under the February 24, 2004 MOU between the State and EPA.

In sum, North Dakota's periodic review and actions under the February 24, 2004 MOU between the State and EPA involve only issues arising under the 1977 PSD amendments to the CAA as summarized above, and the 1980 PSD rules promulgated after Alabama Power at 45 Fed. Reg. 52,675 (August 7, 1980).

### **2.3 Short History of the term "Baseline Concentration" in PSD**

In order to measure whether air quality deterioration is occurring, a baseline concentration level for each pollutant must be established over which air quality improvement or deterioration is measured. Alabama Power used strong language indicating that this baseline concentration is to be determined using "actual air quality data." Id. at 374-376.

The CAA defines "baseline concentration" as follows:

The term "baseline concentration" means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a State air pollution control agency and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all projected emissions in, or which may affect, such area from any major emitting facility on which construction commenced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

CAA § 169(4), 42 U.S.C.A. § 7479(4).

North Dakota's PSD rules define "baseline concentration" as follows:

(1) "Baseline concentration" means that ambient concentration level which exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each contaminant for which a minor source baseline date is established and includes:

- (a) The actual emissions representative of sources in existence on the applicable minor source baseline date, except as provided in paragraph 2;
- (b) The allowable emissions of major stationary sources which commenced construction before the major source baseline date but were not in operation by the applicable minor source baseline date.

(2) The following will not be included in the baseline concentration and will affect the applicable maximum allowable increases:

- (a) Actual emissions from any major stationary source on which construction commenced after the major source baseline date; and

(b) Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.

N.D. Admin. Code § 33-15-15-01(1)(d). The definition of “baseline concentration” at 40 C.F.R. § 51.166(b)(13) and 40 C.F.R. § 52.21(b)(13) is identical to the definition at § 33-15-15-01(1)(d), and has remained unchanged since promulgated at 45 Fed. Reg. at 52,731 & 52,737 in 1980. The meaning of “baseline concentration” was explained in the preamble to the 1980 rules:

As proposed, EPA is continuing its current definition of baseline concentration as the ambient concentration levels at the time of the first permit application in an area subject to PSD requirements. Baseline concentration generally includes actual source emissions from existing sources but excludes emissions from major sources commencing construction after January 6, 1975. Actual source emissions are generally estimated from source records and any other information reflecting actual source operation over the two-year time period preceding the baseline date. The baseline concentration also includes projected emissions from major sources commencing construction (including modification) before January 6, 1975, but not in operation by August 7, 1977.

Unlike the June 1978 policy, baseline concentration will no longer routinely include those emissions increases after the baseline date from sources contributing to the baseline concentration, which are due to increased hours of operation or capacity utilization. Existing policy permitted this grandfathering, provided that such increases were allowed under the SIP and reasonably anticipated to occur as of the baseline date. Today’s policy which normally excludes such increases is consistent with using actual source emissions to calculate baseline concentrations. An actual emissions policy, however, does allow air quality impacts due to production rate increases to sometimes be considered as part of the baseline concentration. If a source can demonstrate that its operation after the baseline date is more representative of normal source operation than its operation preceding the baseline date, the definition of actual emissions allows the reviewing authority to use the more representative period to calculate the source’s actual emissions contribution to the baseline concentration. EPA thus believes that sufficient flexibility exists within the definition of actual emissions to allow any reasonably anticipated increases or decreases genuinely reflecting normal source operation to be included in the baseline concentration.

45 Fed. Reg. at 52,714, col. 2-3. (Emphasis supplied.)

After the ’77 amendments to the CAA, EPA proposed a definition of “baseline concentration,” then adopted a modified definition, that contained a uniform baseline date for the whole country. See 42 Fed. Reg. 57,479, 57,484 (November 3, 1977); 43 Fed. Reg. 26,380, 26,383 (June 19 1978). Alabama Power rejected this approach:

The statutory definition of baseline concentration was in no sense a product of legislative inadvertence. Congress focused on how to define the baseline and fully understood the consequences of its chosen resolution. The Conference Committee explicitly acknowledged its adoption of the Senate definition of baseline, and the Senate report had explicitly rejected EPA’s uniform date approach. Indeed, it purposely embraced the situation EPA’s counsel considers anomalous: “Under this definition (of baseline) it is possible for nonmajor emitting sources to be constructed in the area after the date of enactment without having their emissions affect the ability of major emitters to use the increment available.”

This differential treatment of clean air areas, keyed to when the first major emitting facility applies for a permit, is based on a sound, practical consideration. As the Senate explained,

(t)he purpose is to use actual air quality data to establish the baseline. Where sufficient actual data are not available, the State may require the applicant to perform whatever monitoring the State believes is necessary to provide that information. This may involve monitoring for 12 months or more to establish an annual average.

636 F.2d at 375-76 (footnotes omitted).

The '80 PSD rules adopted after Alabama Power therefore amended its definitions to include a "major source baseline date" and a "minor source baseline date" and this change was incorporated into North Dakota's PSD definitions. *See* N.D. Admin. Code § 33-15-15-01(1)(e); 40 CFR § 52.21(14) and 40 CFR § 51.166(b)(14).

As discussed in Section 3.4 of the modeling report to which this analysis is attached, the '80 PSD rules also adopted an "actual emissions policy." In establishing a "baseline concentration," an "actual emission policy" includes "actual source emissions." 45 Fed. Reg. at 52,714.

In summary, unlike the June 1978 policy, an actual emissions policy "no longer routinely include[s] those emission increases after the baseline date from sources contributing to the baseline concentration, which are due to increased hours of operation or capacity utilization" unless the source "can demonstrate that its operation after the baseline date is more representative of normal source operation than its operation preceding the baseline date," in which case "*the definition of actual emissions* allows the reviewing authority to use the more representative period to calculate the source's actual emission contribution to the baseline concentration." *Id.* (Italics supplied.)

In addition, the terms "representative" and "normal source operation" arise out of the definition of "actual emissions" at N.D. Admin. Code § 33-15-15-01(1)(a)(1) as adopted and incorporated from the '80 regulations promulgated at 45 Fed. Reg. 52,675. This definition allows the State to consider whether a source's "operation *after* the baseline date" is "more representative" of "normal source operation" than its operation in the two years preceding the baseline date.

In December of 1977 when the baseline date was triggered, the only monitoring data available for SO<sub>2</sub> were the "bubbler data" that the State had gathered and found to be unreliable,<sup>4</sup> and that EPA had noted as unreliable in the preamble to the '80 PSD rules. 45 Fed. Reg. at 52,724. Except for this unreliable "bubbler data," the State had no available monitoring data for the Department to consider in establishing a "baseline concentration" as of the minor source baseline date in 1977.<sup>5</sup> The '80 preamble discusses the changes made in the regulations

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<sup>4</sup> A Review of the Historical Application of Prevention of Significant Deterioration in North Dakota at p. 13. *See also* Final Report: ND-REAP Air Quality Network, by Department's Division of Environmental Engineering (September 1997); Air pollution Control Grant: Final Report for the Twelve Months Ending 9/30/77, by Department's Division of Environmental Engineering (March 1978).

<sup>5</sup> *Id.*

to provide for monitoring as part of the process in establishing the “baseline concentration” and the problem raised when there is a lack of reliable monitoring data at the time of the minor source baseline date, but concluded that changes in the Alabama Power court’s final opinion allowed “either monitoring or modeling as the method of analysis” for establishing an actual emissions baseline concentration. 45 FR at 52,724.

The State thus examined the best available data from all baseline sources at the minor source baseline date and in the immediate years after the baseline date to 1982, and examined whether the operations of those facilities on the minor source baseline date represented “normal source operations.” It then established an “actual emissions baseline inventory” to establish a modeled “baseline concentration” for the reasons discussed in section 3.4 of the PSD SO<sub>2</sub> modeling report to which this analysis is attached.